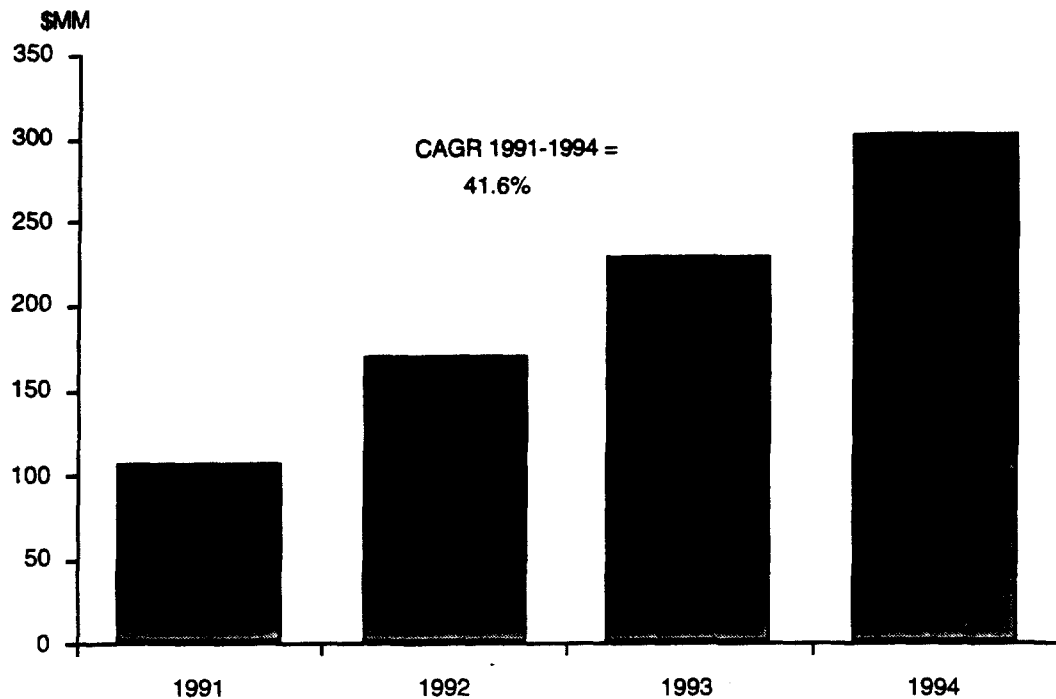


#### EXHIBIT IV.1: ENHANCED FAX SERVICE REVENUES



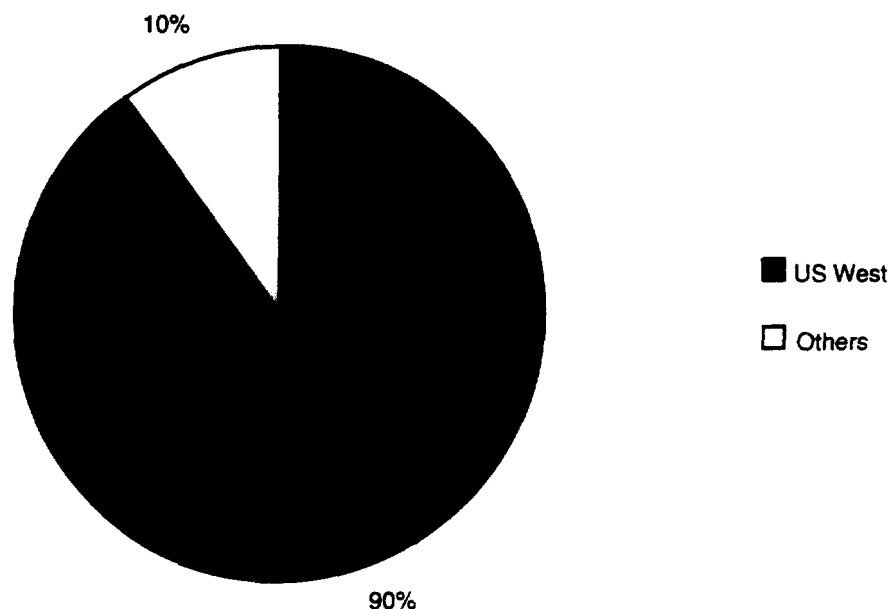
Source: Marketfinders

#### IV.2. Promotion and Awareness of Enhanced Fax Services

*RBOCs have spent more than any other segment of provider on promotion of Enhanced Fax Services. This has increased public awareness of the category, even though it was not very effective at increasing brand specific awareness of U S WEST's own service.*

The RBOCs have played a significant role in this market by increasing public awareness. When most of the RBOCs entered the market they spent significant sums on advertising and direct mail promotions. They were the only significant segment of provider to do so. U S WEST, for example, spent \$2-3MM and used newspaper ads, radio ads, direct mail and telemarketing to promote the service towards business travelers and people who require confidentiality for documents (eg lawyers).

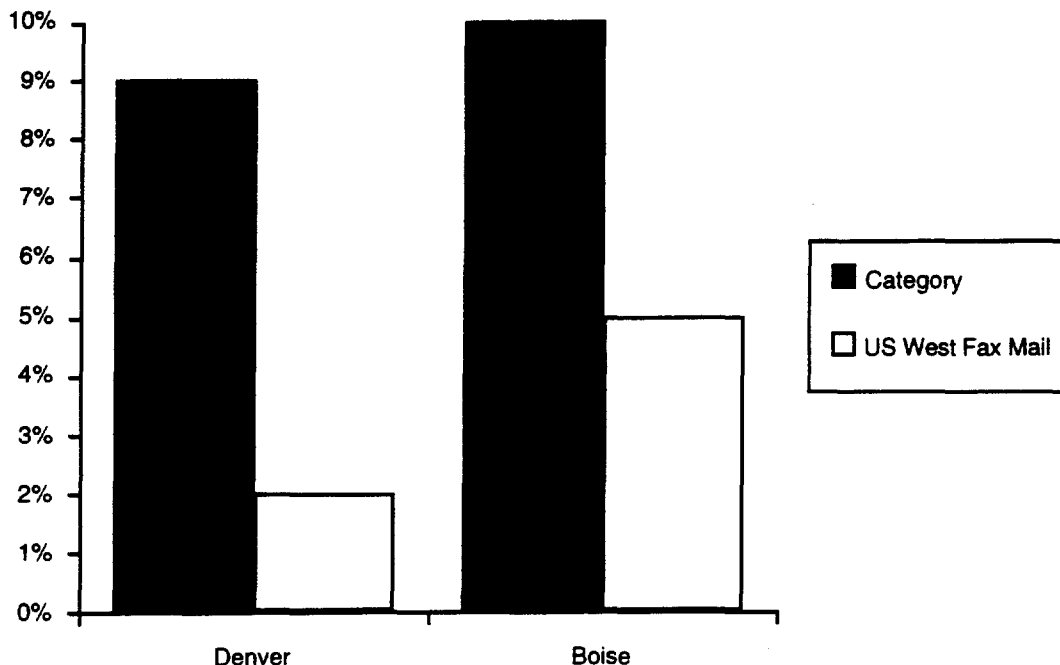
**EXHIBIT IV.2: RELATIVE PROMOTIONAL SPEND FOR ENHANCED FAX SERVICES  
(U S WEST TERRITORY)**



*Source: Marketfinders Estimate, U S WEST*

This spending increased awareness of the Enhanced Fax Services sector, but it was much less effective at promoting awareness of RBOC brands specifically. For example, U S WEST conducted tests in its territory after the promotions for Enhanced Fax Services. It found that awareness for its own branded service was typically less than half the awareness of the sector as a whole. In this respect, the presence of the RBOCs has clearly benefited the market place; their investment in marketing for their own products served to raise the profile of the whole sector, and Service Bureaus and IXC's were able to free-ride on the back of the efforts of the RBOCs.

**EXHIBIT IV.3: UNAIDED AWARENESS OF ENHANCED FAX PRODUCTS  
(U S WEST TERRITORY, 1992)**



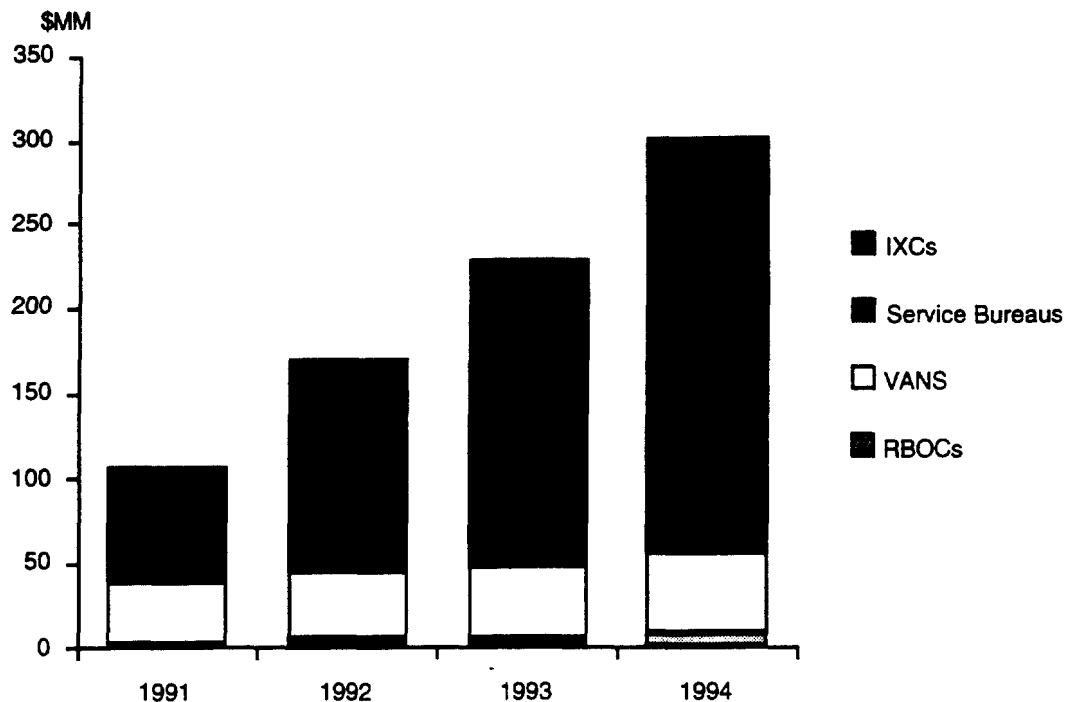
Source: U S WEST Strategic Marketing

**IV.3. Performance by Provider Segment**

*The Enhanced Fax Services segment is dominated by independent Service Bureaus. The IXC's have also been relatively successful, despite higher prices and little sales effort. The RBOCs have not been successful and several have exited the market. This example of RBOC failure underlines the competitive nature of the Enhanced Services retail market. Clearly the RBOCs lacked either the desire, or the ability, or both to influence the development of this market.*

This segment is still dominated by the Service Bureaus. The IXC's have made some progress in penetrating the segment, either through separate services or via their VANS networks, but the RBOCs have been very unsuccessful.

#### EXHIBIT IV.4: ENHANCED FAX SERVICE REVENUES BY PROVIDER TYPE



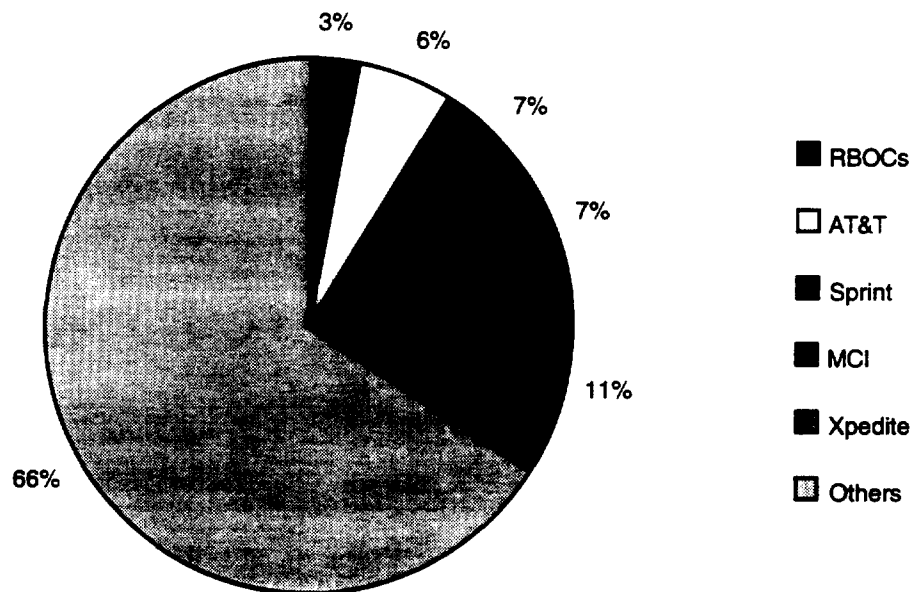
Source: Marketfinders

- **Service Bureaus:** these independent providers have 58% of the market between them. They have been growing rapidly. Xpedite is the largest with Broadcast Fax revenues of \$33MM in 1994. A tier of successful Independent Fax Service providers has emerged, providing high quality service to specific market niches.
- **VANS networks:** this segment include players such as Advantis and GEIS, but it is dominated by the IXCs – AT&T, MCI and Sprint. These players incorporate Fax capabilities into their E mail networks. This has not been a primary thrust of their businesses, partly because the VAN services have limited functionality and are generally priced at a higher rate than the separate Enhanced Fax offerings.
- **IXCs:** in addition to their VANS-related Fax revenues, the IXCs have set up separate Fax Service businesses. These have been fairly successful,

despite having higher prices than the rest of the market and despite not using dedicated sales forces. MCI has grown the most quickly, jumping ~40% in 1994.

- The RBOCs: Despite their efforts, the RBOCs have not been very successful in this segment. They have only managed to capture a tiny share of the market (3% in 1994). Bell South and Bell Atlantic have actually shut down their Fax operations after failing to meet revenue objectives. U S WEST has reigned back theirs for similar reasons.

**EXHIBIT IV.5: SHARE OF ENHANCED FAX SERVICE REVENUE BY MAJOR PLAYER**



Source: Marketfinders

## Conclusions

The facts demonstrate compelling benefits associated with RBOC participation in the Enhanced Services Market under the current CI-III rules environment. The overall market is thriving as evidenced by its 18% annual growth, powerful market participants, low concentration of market share and rapid rate of new service introduction. RBOCs in total have less than 10% of the market, despite participation in every segment. No individual RBOC controls more than 2% of the market. Given this fragmentation, it is highly unlikely that RBOCs would be able to act anti-competitively. Two specific cases bear out the general finding.

The case of voice messaging demonstrates the specific benefits of RBOC participation under CI-III rules. In 1990, prior to RBOC entry, voice messaging service was the preserve of business and wealthy individuals. Service bureaus charged \$15-25 per month for a voice mailbox and significantly more for live operator attendant. They attracted fewer than a million residential subscribers. RBOC voice mail, competitively priced at around \$6 per month for basic service for residential customers, has caused a dramatic expansion of the mass market by attracting some 4 million residential subscribers in four years. Similar gains have been achieved in the small business segment. U S WEST in particular has emphasized consumers across its broad service territory: not only high-income population centers, but also rural areas, low income areas and minorities. U S WEST's consumer-marketing experience and focus has brought customized services to communities of interest, such as network voicemail to parents and teachers in Arizona schools, and Spanish voicemail to residents of Albuquerque. Competitors, meanwhile, have been forced to reduce prices and step up innovation, but their businesses are healthy. The three largest independent voice mail service bureaus all enjoyed substantial growth in recent years. Equipment sales (including residential and business) have expanded \$800 MM in the past four years: more than the RBOC's new voicemail revenues. We conclude that the combination of significant public good, and lack of harm to competitors, indicates a strong net benefit from RBOC participation under current rules in this market segment.

Enhanced Fax services tell a different story. In this segment, RBOCs have failed to capture significant market share. Instead, independent service bureaus and IXC's control this segment, despite substantial efforts on the part of some RBOCs to develop this line of business. U S WEST in particular, spent \$2-3MM per year promoting its

Enhanced Fax services: far more than any other provider in its territory, according to an industry watcher. This contributed to the threefold expansion of this market between 1991 and 1994. However, the U S WEST service offering was ultimately uncompetitive, and attracted few customers, resulting in substantial losses to U S WEST. Other RBOCs with similar experiences exited the market segment altogether. Some competitors complain that under current CI-III rules, RBOCs have too much market power. But this case indicates that RBOCs were either unable or unwilling to prevent their competitors from amassing a 95%+ share in a market in which RBOCs had made substantial investments.

**APPENDIX I. MAPS OF U S  
WEST VOICE MESSAGING  
SERVICE CUSTOMERS**








APPENDIX II. TRANSCRIPT OF  
PARENT-TEACHER LINK  
FOCUS GROUPS

APPENDIX III. NEWS ARTICLES  
ABOUT PARENT-TEACHER  
LINK

## APPENDIX 1

# DENVER COLORADO VOICE MESSAGE PENETRATION RATE BY WIRE CENTER

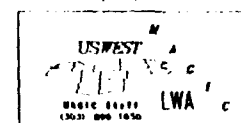
VOICE MESSAGE  
PENETRATION RATE

-  0.00%
-  0.00% - 1.00%
-  1.01% - 5.00%
-  5.01% - 15.0%
-  15.1% +

0 4 8

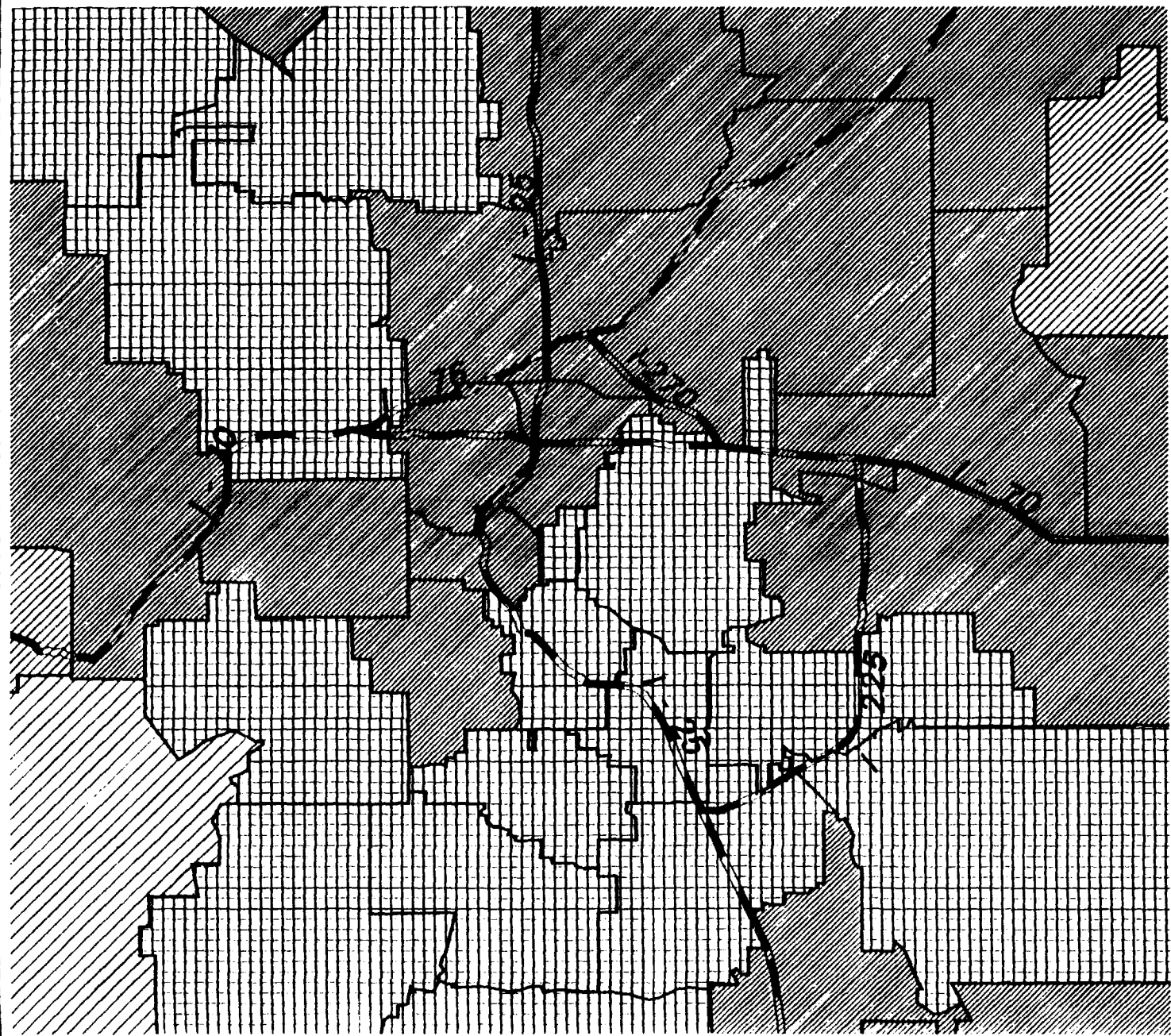
MILES

04/04/95



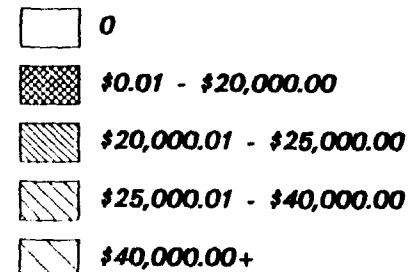
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Development.



# DENVER COLORADO MEDIAN HOUSEHOLD INCOME BY 1990 CENSUS BLOCK GROUP

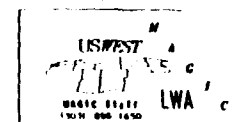
1990 CENSUS  
MEDIAN HOUSEHOLD INCOME



 WIRE CENTER  
BOUNDARY



04/04/95

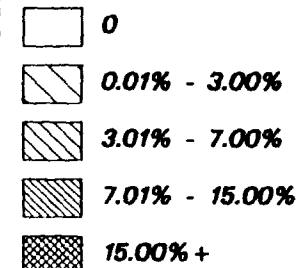


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# DENVER COLORADO HISPANIC PERCENTAGE BY 1990 CENSUS BLOCK GROUP

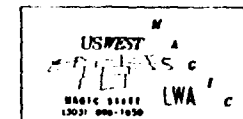
1990 CENSUS  
HISPANIC PERCENTAGE



 WIRE CENTER  
BOUNDARY

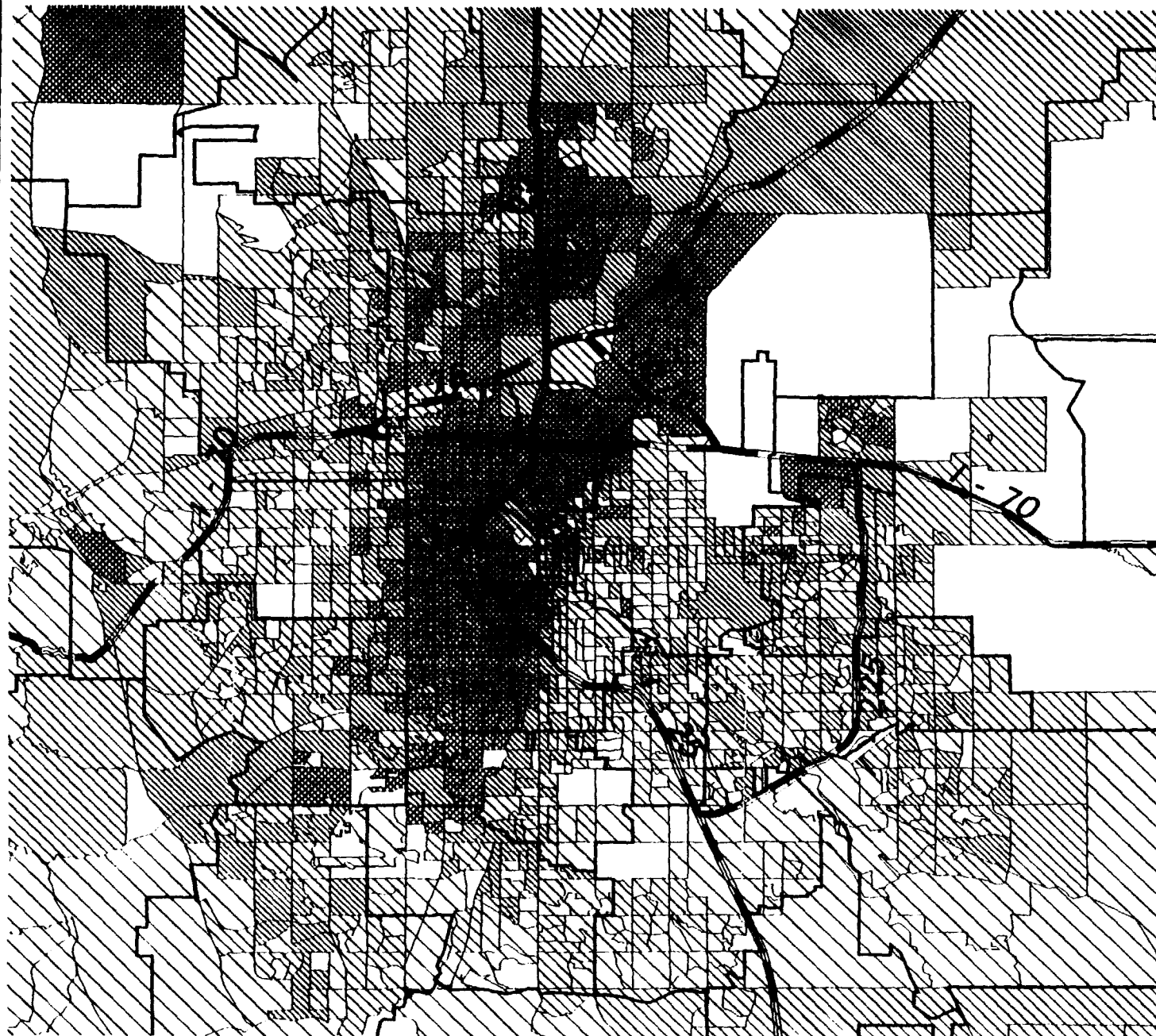


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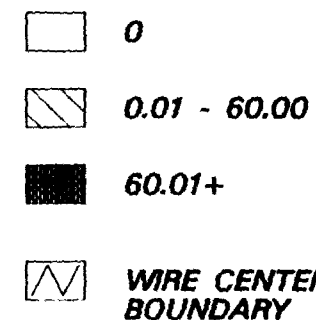
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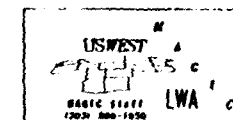


# COLORADO 1990 CENSUS HOUSEHOLD DENSITY BY CENSUS BLOCK GROUP

HOUSEHOLDS  
PER SQUARE MILE

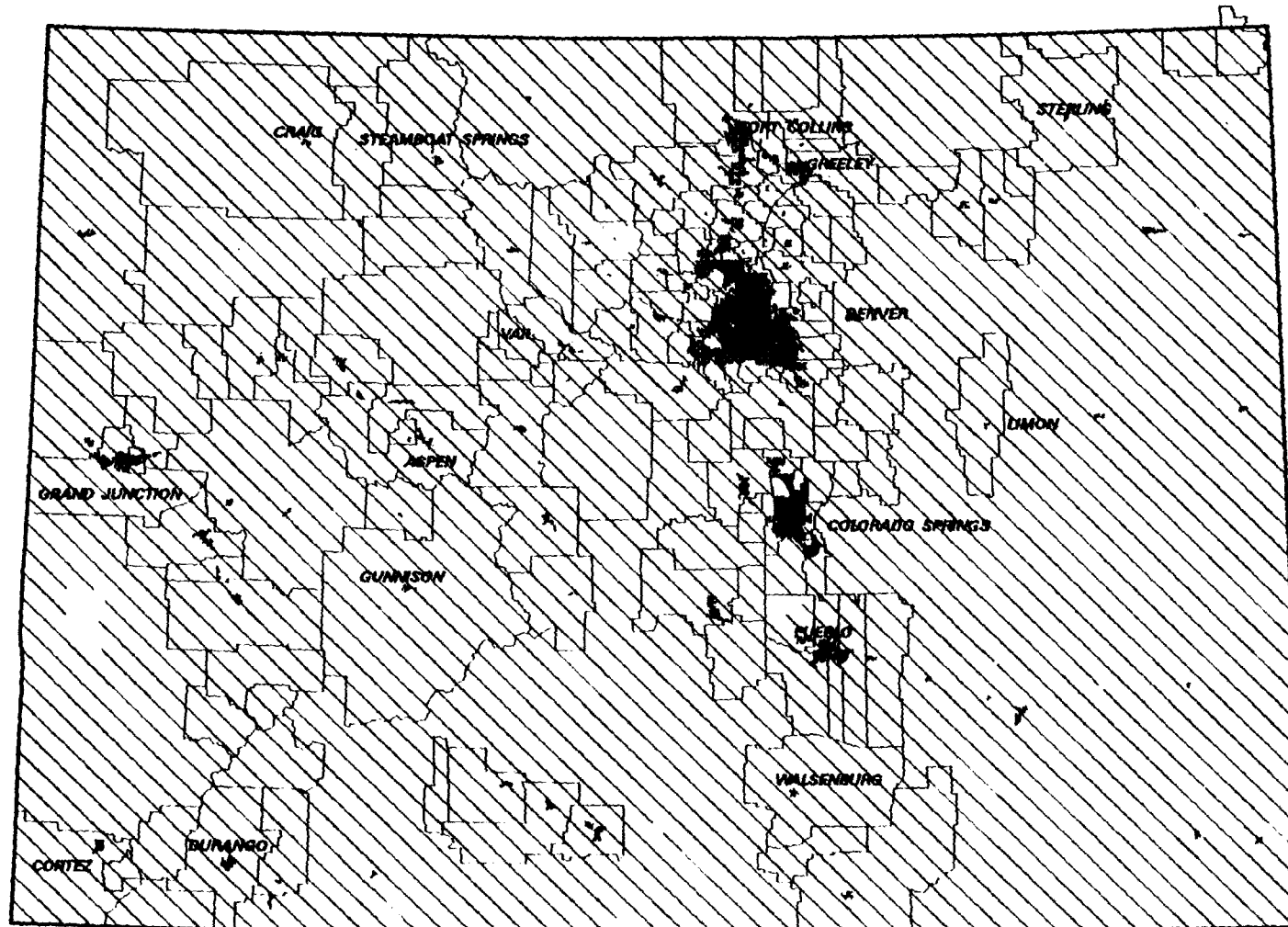


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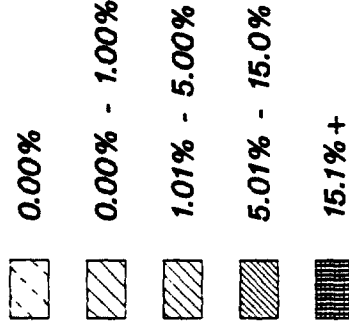
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# COLORADO VOICE MESSAGE PENETRATION RATE BY WIRE CENTER

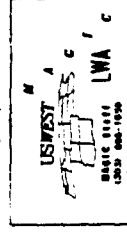
VOICE MESSAGE  
PENETRATION RATE



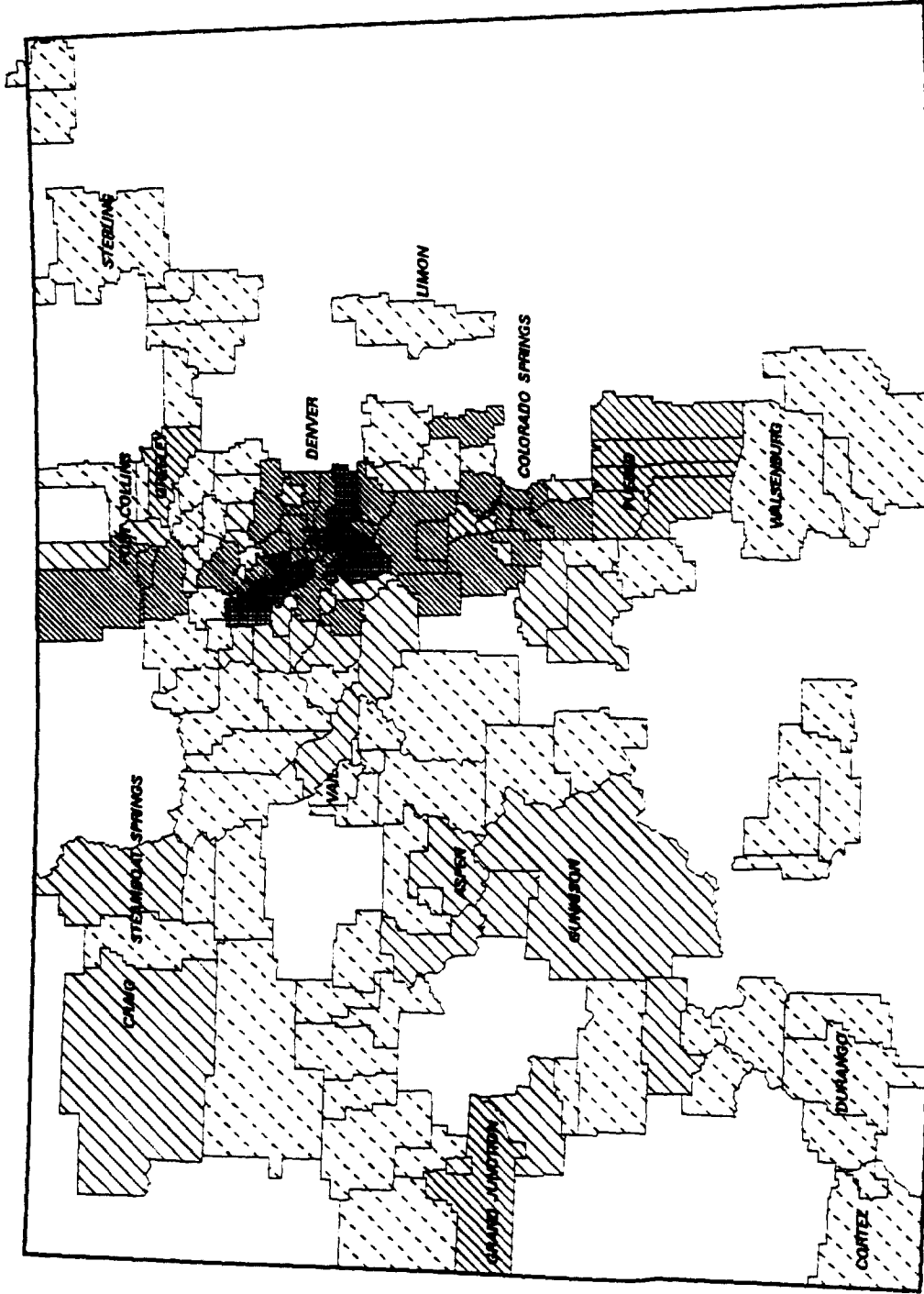
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MILES

04/04/95



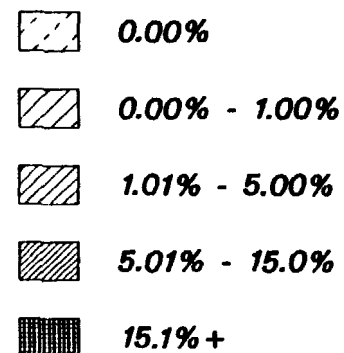
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# ARIZONA VOICE MESSAGE PENETRATION RATE BY WIRE CENTER

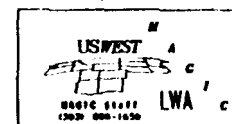
## VOICE MESSAGE PENETRATION RATE



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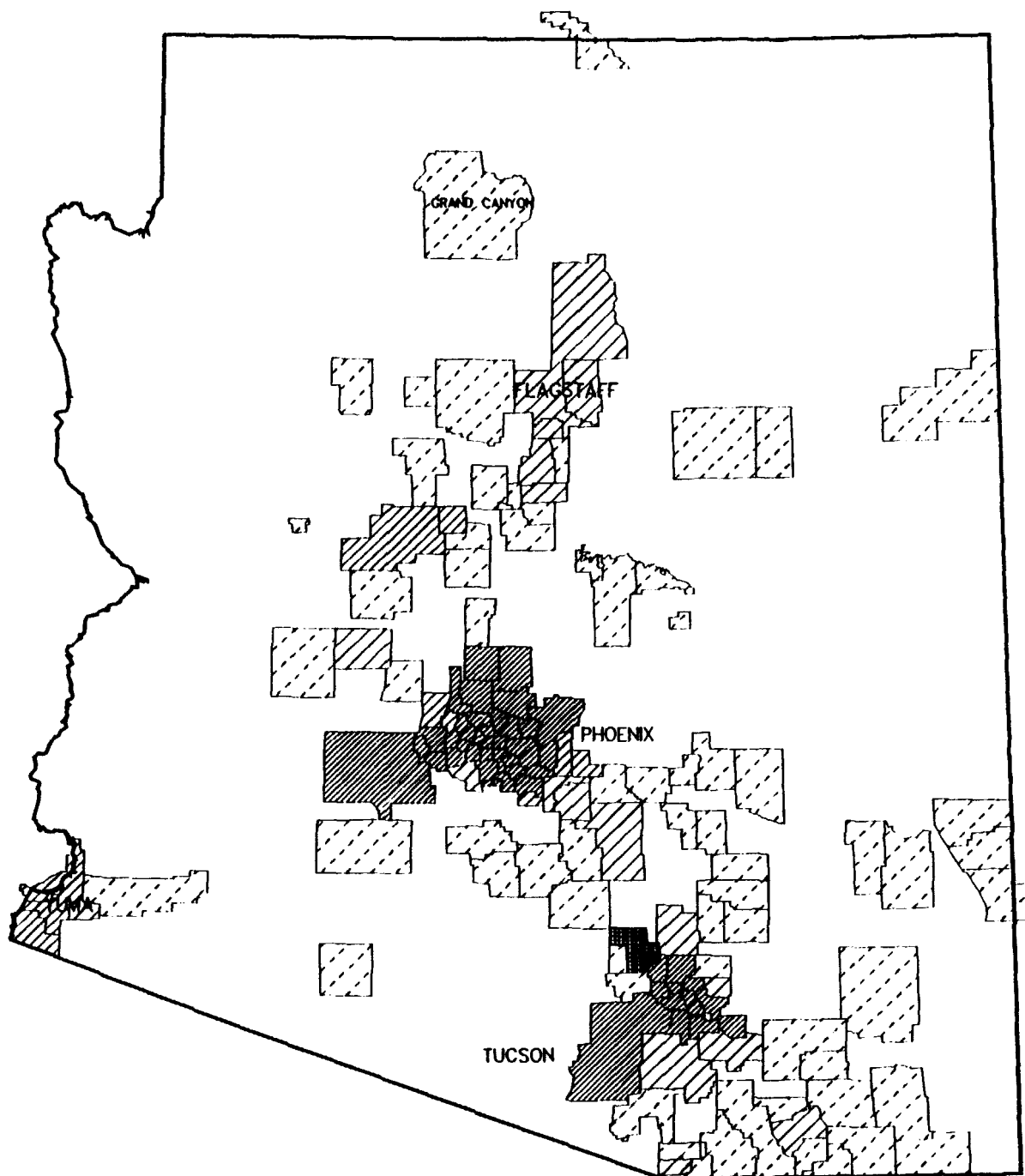
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04/04/95



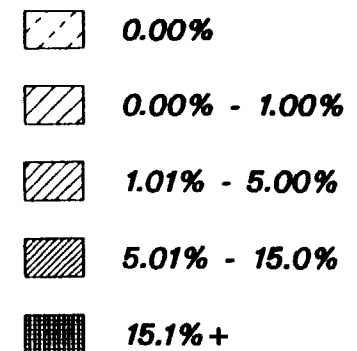
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# IDAHO VOICE MESSAGE PENETRATION RATE BY WIRE CENTER

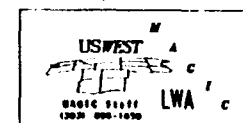
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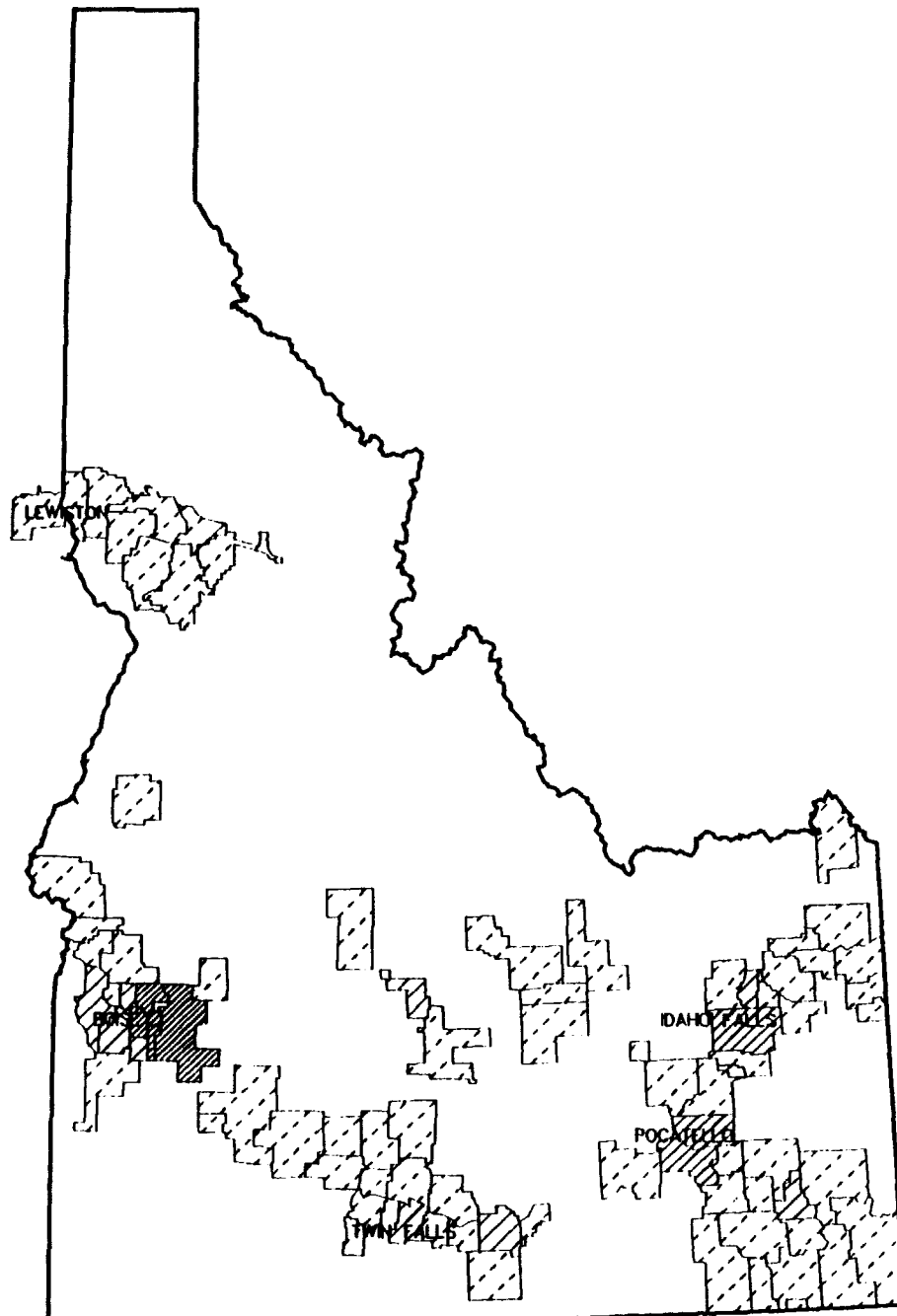
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04/04/95



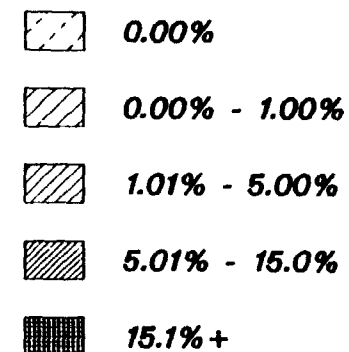
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# IOWA VOICE MESSAGE PENETRATION RATE BY WIRE CENTER

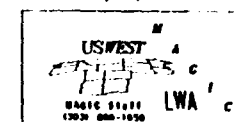
VOICE MESSAGE  
PENETRATION RATE



0 46 92

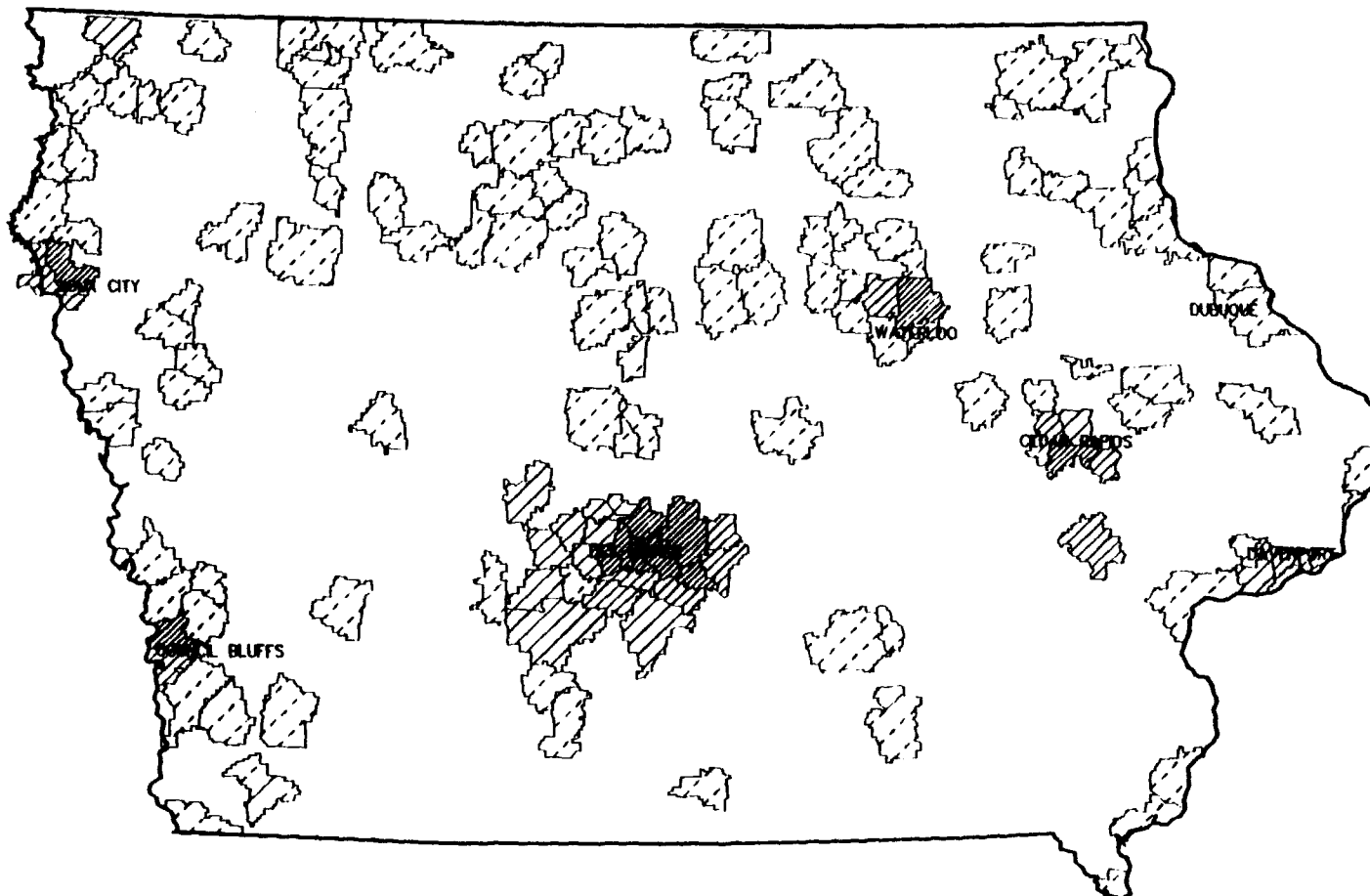
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04/04/95



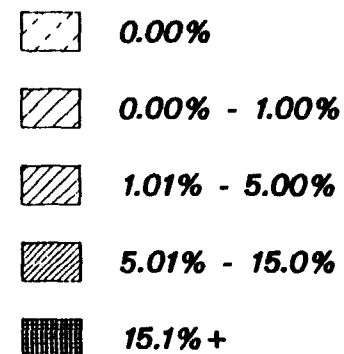
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# MINNESOTA VOICE MESSAGE PENETRATION RATE BY WIRE CENTER

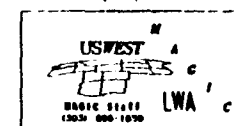
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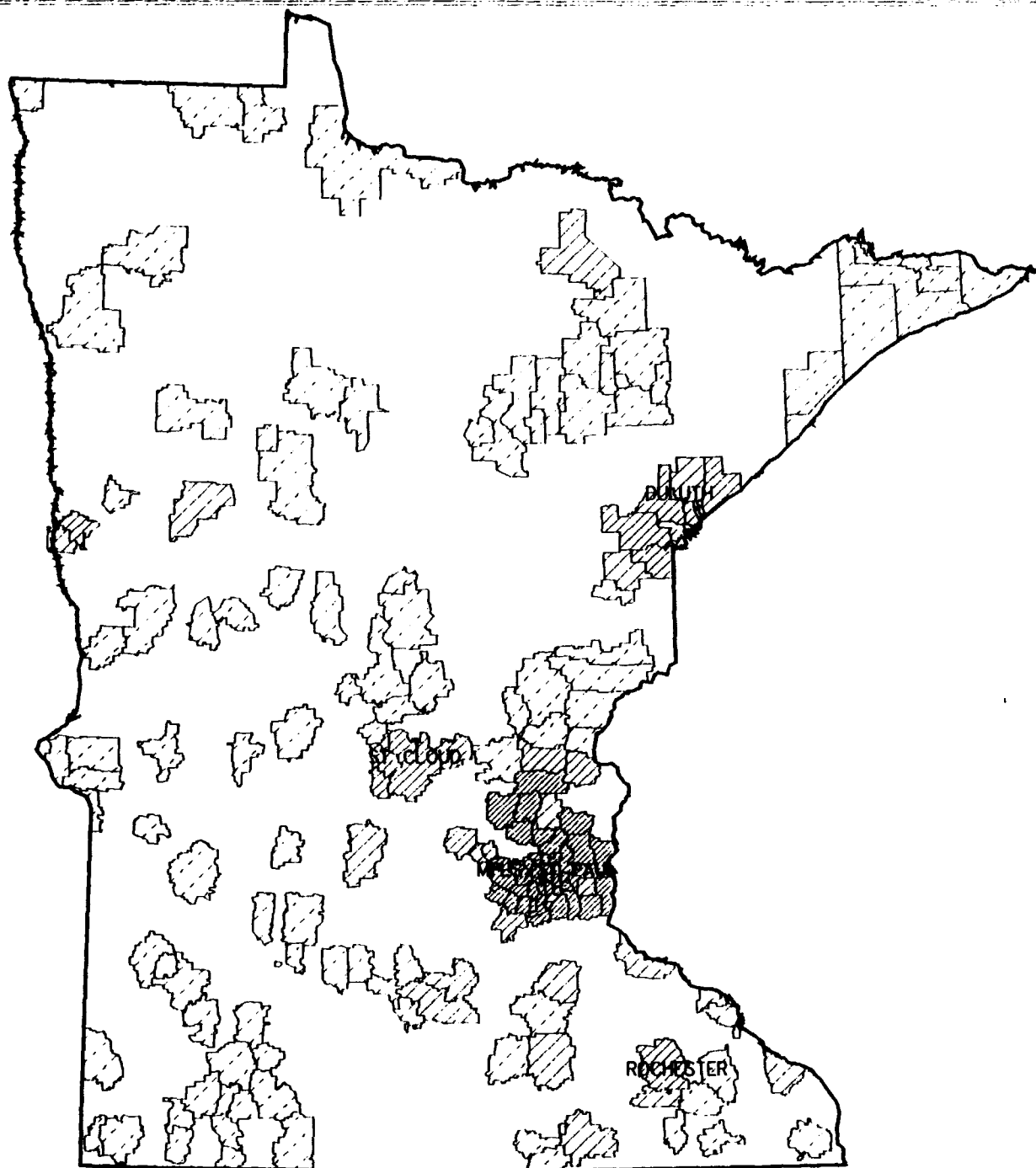
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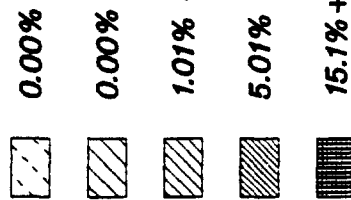
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# MONTANA

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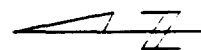
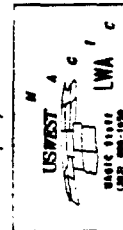
VOICE MESSAGE  
PENETRATION RATE



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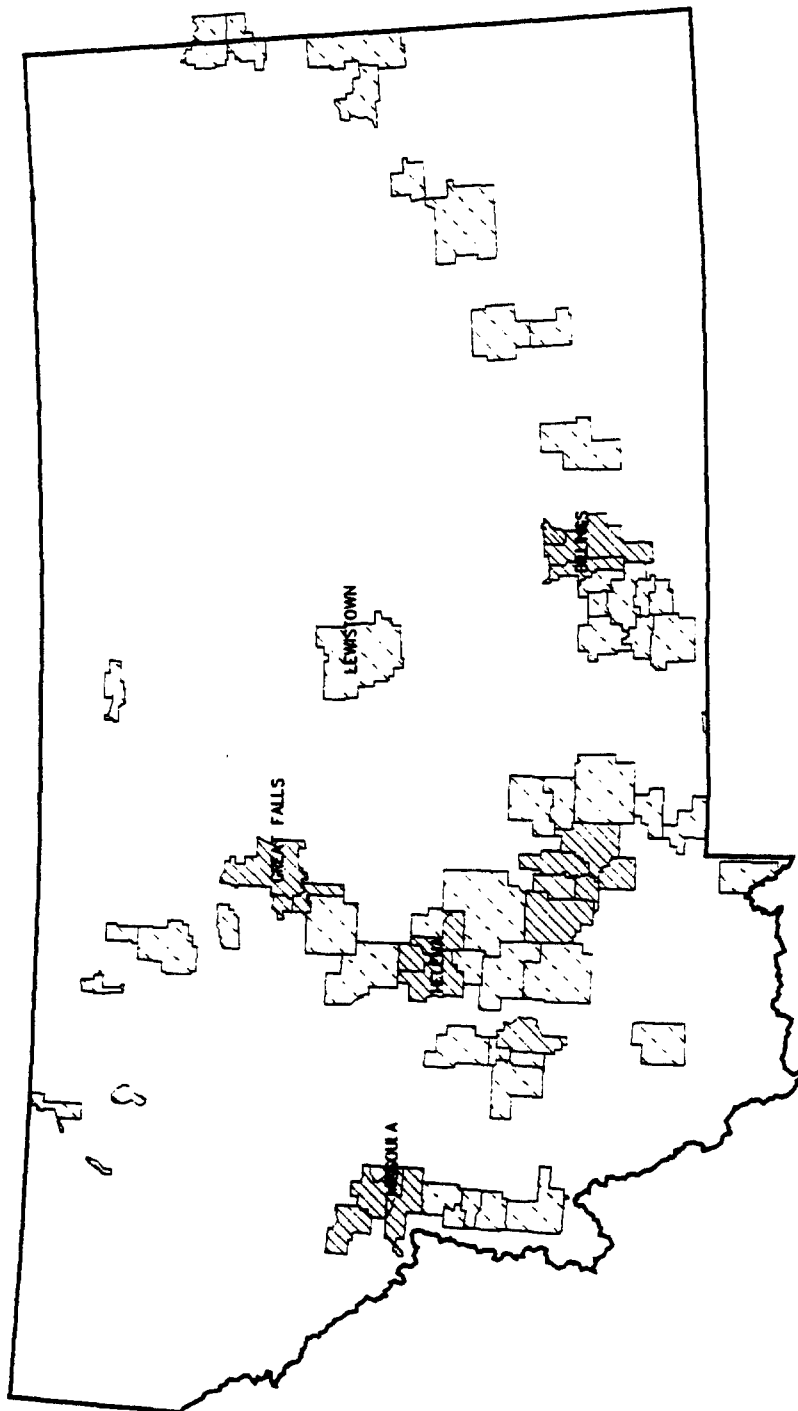
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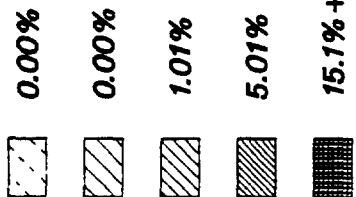
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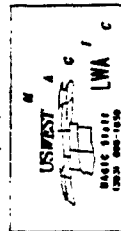
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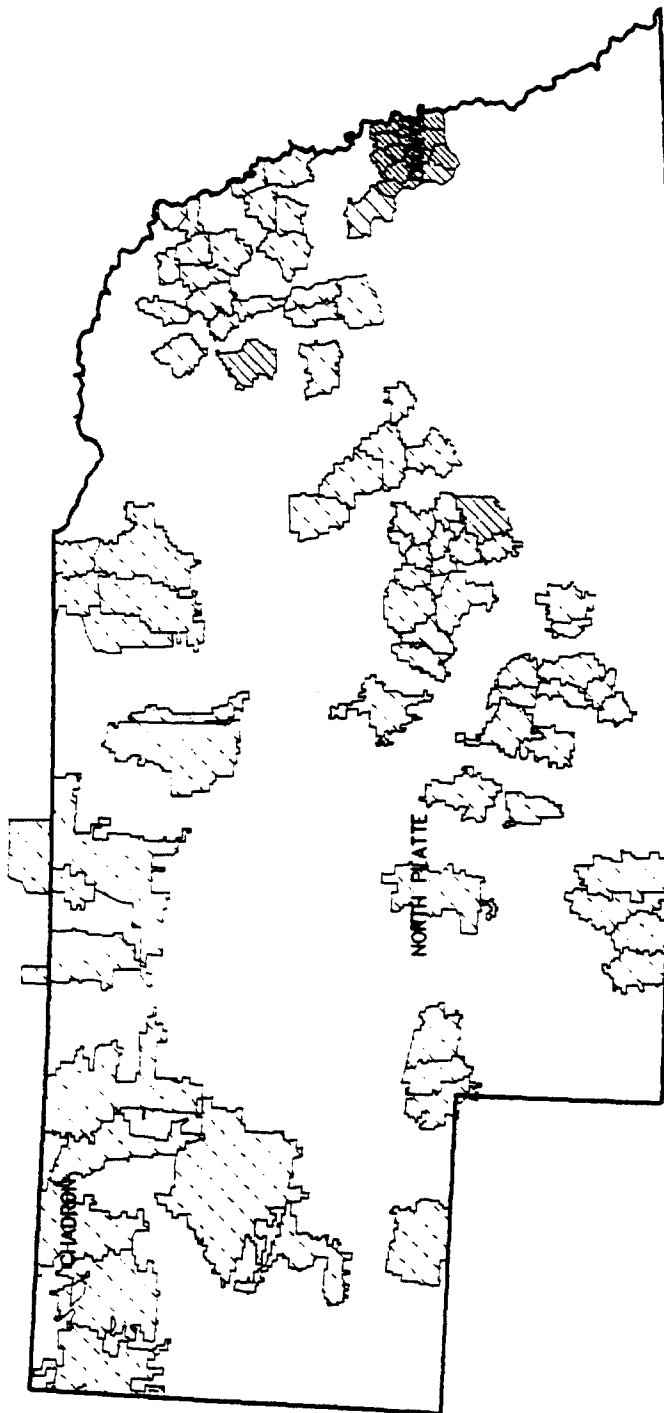
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04/04/95



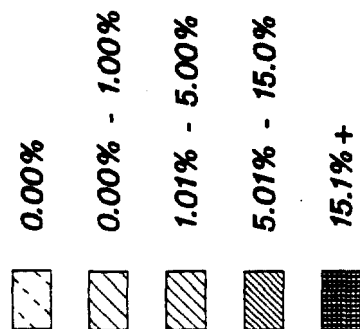
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**NEW MEXICO  
VOICE  
MESSAGE  
PENETRATION  
RATE BY  
WIRE CENTER**

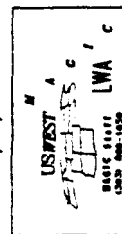
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PENETRATION RATE**



0 55 110

MILES

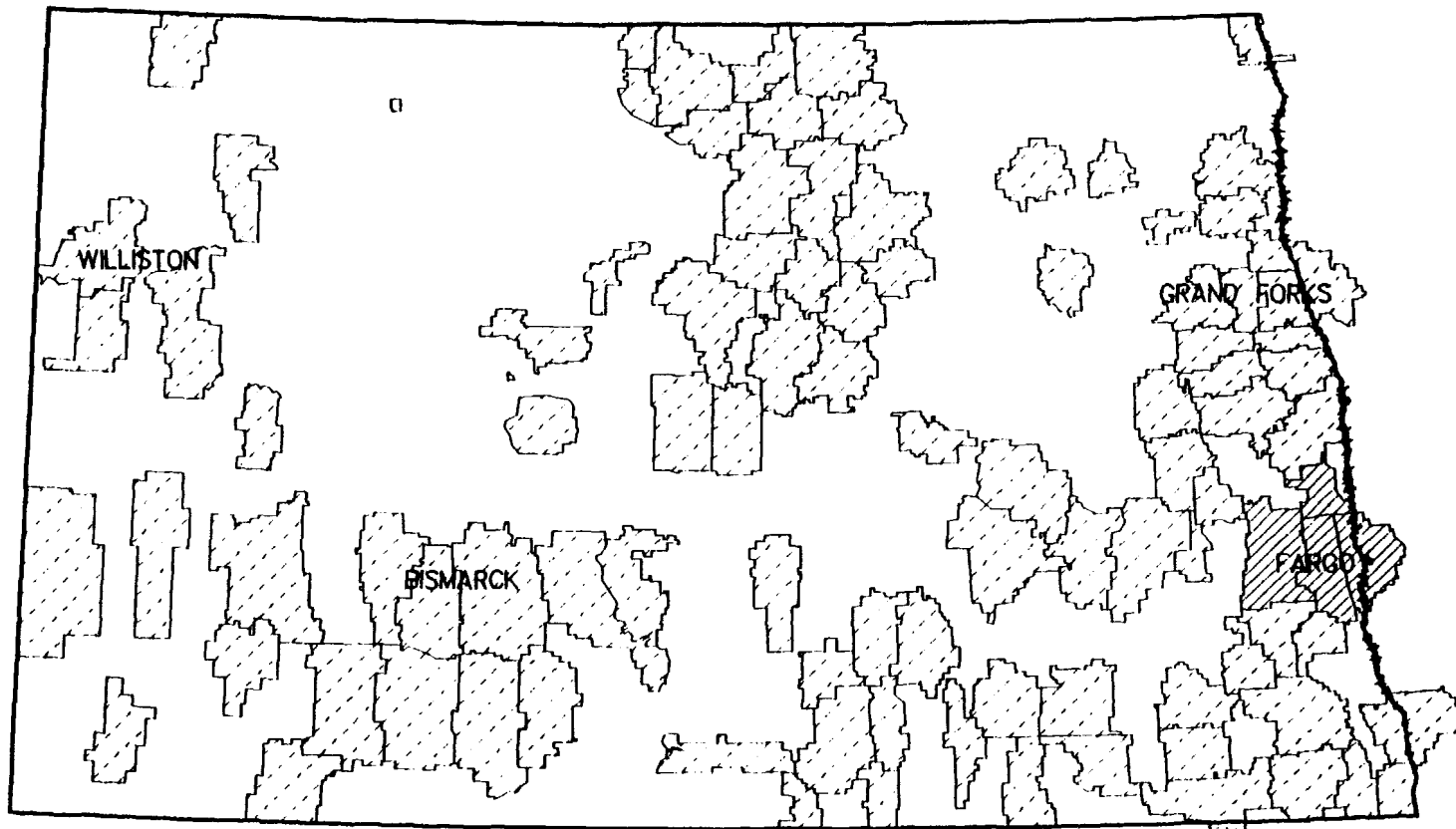
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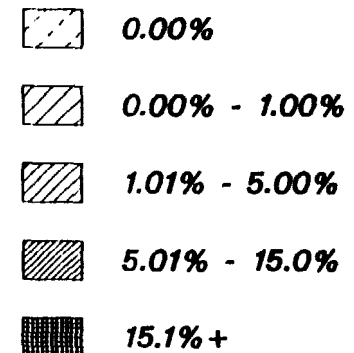
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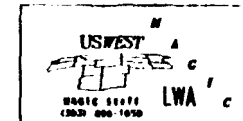
# NORTH DAKOTA VOICE MESSAGE PENETRATION RATE BY WIRE CENTER



## VOICE MESSAGE PENETRATION RATE



04/04/95



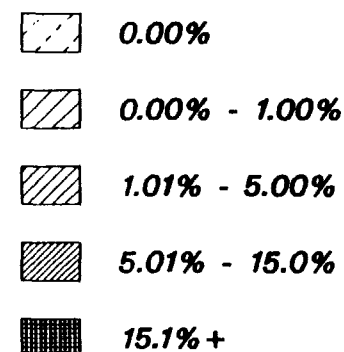
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# OREGON VOICE MESSAGE PENETRATION RATE BY WIRE CENTER

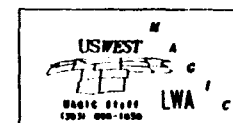
VOICE MESSAGE  
PENETRATION RATE



0 56 112

MILES

04/04/95



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